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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

NOV 30 1992

4WD-FFB

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Byron Brant
Department of the Navy - Atlantic Division
Naval Facilities Engineering Command
Code 1822
Norfolk, Virginia 23511-6287

RE: Marine Corps Base Camp Lejeune NPL Site
Site 65 - Engineer Area Dump
Jacksonville, North Carolina

Dear Mr. Brant:

EPA has reviewed the document titled "Draft Site Inspection Report - Site 65 Engineer Area Dump" dated October 2, 1992. Comments on the draft documents are enclosed. These documents have been given a cursory review to provide you with guidance in developing an RI/FS Work Plan (and associated project plans) to support a Record of Decision.

If you have any questions or comments, please call me at (404) 347-3016.

Sincerely,

Michelle M. Glenn
Senior Project Manager

Enclosure

cc: Peter Burger, NCDEHNR
George Radford, MCB Camp Lejeune

COMMENTS
DRAFT SITE INSPECTION REPORT
SITE 65 ENGINEER AREA DUMP
MARINE CORPS BASE CAMP LEJEUNE

GENERAL COMMENTS

1. The conclusions and recommendations concerning additional work to be performed presented in the Draft Site Inspection (SI) Report are generally acceptable. It should be emphasized that the information provided to date is insufficient to support a "no further investigation decision" at the subject site. Collection of additional environmental samples is required to further characterize the extent of contamination and to generate "a statistically significant number of samples" at the site. In addition to the groundwater, surface water and sediment sampling proposed in the Draft SI Report, soil samples must also be collected, especially in the area where relatively high concentrations of contaminants have been detected during the previous sampling (e.g., the area near the monitoring well borehole 65MW02).

2. The groundwater sampling must also include sample collection from the Castle Hayne aquifer which underlies the shallow aquifer and is being used for drinking water supply. The Draft SI Report contains inconsistent statements describing the Castle Hayne aquifer as being both "confined' and "semiconfined." Clarification should be provided as to whether the shallow aquifer and the Castle Hayne aquifer beneath the site are hydraulically interconnected. The shallow groundwater aquifer beneath the site must be assessed for the residential use scenario if it is hydraulically interconnected with the Castle Hayne aquifer. Therefore, groundwater sampling from the Castle Hayne aquifer should provide useful information as to whether migration of contaminants from the shallow aquifer has occurred.

3. Based on the limited sampling data, the Draft SI Report presents a preliminary risk assessment that compares the concentrations of contaminants detected to Federal and state applicable or relevant and appropriate requirements (ARARs), to be considered (TBC) guidelines and advisories, and risk-based preliminary remediation goals (PRGs). The conclusions provided in this risk analysis are of limited use, if any use at all. There is no justification for the use of a "commercial/industrial" land use scenario. In addition, the author of the report admits that the disposal areas are unknown. It is premature to assume the concentrations determined in one "stab in the dark" sampling can represent the risks posed by this site.

4. The author of the report has placed too much emphasis on the preliminary remedial goals identified. It is important to remember that the risk-based PRGs are initial guidance. They do not establish that cleanup to meet these goals is warranted. The PRGs may be revised based on the consideration of appropriate factors including, but not limited to exposure factors, uncertainty factors and technical factors. Included under exposure factors are cumulative effect of multiple contaminants, the potential for human exposure from other pathways at the site, population sensitivities, potential impacts on environmental receptors and cross-media impacts of alternatives. Factors related to uncertainty may include the reliability of alternatives, the weight of scientific evidence concerning exposures, individual and health effects and the reliability of exposure data. Technical factors may include detection/quantification limits for contaminants, technical limitations to remediation, the ability to monitor and control movement of contaminants and background levels of contaminants. The final selection of the appropriate risk level is made when the remedy is selected based on the balancing of criteria.

5. The described decontamination procedures for drilling and sampling equipment are deficient. The decontamination protocols should comply with the ECB SOPQAM and should be implemented for the proposed next round of sampling to ensure Level IV data quality for the sampling analyses. Failure to utilize established protocols may render even DQO Level IV data useless as a result of faulty sampling or field measurement techniques.

6. In Tables 4-1 through 4-4, the legend for the "U" flag states the following: "Not detectable, substantially above the level reported in laboratory or field blanks." The comma between "not detectable" and "substantially" alters the intended meaning of the definition and should be deleted for accuracy.

7. A glossary of the acronyms used in the Draft SI Report should be compiled and included for easy reference purposes.

SPECIFIC COMMENTS

1. Page ES-1, 2nd paragraph - If the answer to item number one is "yes", then the answer to number three is "yes".

2. Page ES-1, 3rd paragraph - Three NUS reports are included in the reference list at the end of the Draft SI Report. Specify which Halliburton NUS Environmental Corporation (NUS) report is the one containing information regarding the waste disposal history at the site. An Initial Assessment Study which Water and Air Research conducted in 1983 is cited in the text but omitted from the reference list where it needs to be included.

3. Page ES-2, 5th bullet - Indicate what "NEESA" represents. The QA/QC sample collection methods used should be no less stringent than the criteria set forth in the ECB SOPQAM.

4. Page ES-2, 4th paragraph - The paragraph states that "the presence of Aroclor-1254 in one subsurface soil sample is not explainable." In this case, additional subsurface samples should be collected during the next round of sampling to verify the presence and concentration of this contaminant. Furthermore, levels of contaminants detected in the soil should be compared to site-specific background levels, not the levels for soils in the eastern United States.

5. Page ES-3, 4th paragraph - A preliminary risk assessment has limited value in a situation where the source of potential contamination is unknown.

6. Page ES-3, 5th paragraph - The current use of the aquifer is of much less significance than the current classification.

7. Page ES-4, 3rd paragraph - High concentrations of metals are often associated with battery disposal.

8. Page 1-5, 5th paragraph - This section should also mention the previous investigation which NUS conducted. See Comment No. 1.

9. Page ES-4, last paragraph - EPA does not concur that this site should not undergo an RI/FS until "further information is collected". Current information indicates the presence of low level contamination. Very possibly, the Navy has not yet identified the actual disposal areas. EPA strongly recommends that any additional work be performed under and RI/FS work plan to include geophysical investigation for potential buried drums. If the additional data collected under the RI/FS process, and utilized in a baseline risk assessment indicate "no threat"; a "no action" Record of

Decision may be developed to document the findings of the study. Currently, there is no formal mechanism for determining "no action" or "no further investigation" at a site containing hazardous waste contaminants at concentrations above background.

10. Page 1-6, 3rd paragraph - The text states that the soil boring locations "depict the general area where disposal activities allegedly occurred". Specify the source which describes the location of these disposal activities. Soil background samples should have also been collected.

11. Page 1-9, 1st paragraph, 3rd bullet - According to ECB SOPQAM, the bentonite pellet seal should be placed a minimum of 2 feet above the top of the sand pack. Failure to utilize defensible field methods negates the expense and usefulness of DQO Level IV data.

12. Page 1-10, 2nd paragraph - The use of only steam cleaning for downhole and sampling equipment decontamination between each drilling event is inadequate. For appropriate decontamination procedures, refer to Appendix E.9 of the ECB SOPQAM for details. Furthermore, the ECB SOPQAM requires that the steam cleaner and/or high-pressure hot water washer shall be capable of generating a pressure of at least 2500 pound per square inch (PSI) and producing hot water and/or steam (200 F plus).

13. Page 1-10, 3rd paragraph - Deionized water and organic-free water should be used instead of distilled water for the decontamination of sampling equipment.

14. Page 2-2, 2nd paragraph - Please cite the authority for the statement "These poor drainage areas are not wetlands".

15. Page 2-4, 2nd paragraph and Page 2-5, 2nd paragraph - Statements in these two paragraphs describe the Castle Hayne aquifer as being both "confined" and "semiconfined." This information is conflicting and should be clarified.

16. Page 2-11 - The results of this SI <u>do</u> indicate the need for additional work at this site.

17. Page 3-1, 2nd paragraph - Rationale should be provided as to how the locations of monitoring wells and soil borings were selected to represent the site condition and characterize contamination. The statement that "there are no maps or figures which depict the location of the disposal areas" seems contradictory to earlier statements.

18. Page 4-1, 2nd paragraph - The use of the term "instrument detection level" is inaccurate. The term "quantitation limit" should be used rather than "instrument detection level." The instrument detection level, or detection limit (DL), is the lowest level of a chemical that can be detected by an instrument. A chemical present below DL cannot be distinguished reliably from the normal, random noise of an analytical instrument or method. DLs are chemical-specific and instrument-specific and are determined by statistical treatment of multiple analyses in which the ratio of the lowest amount observed to the electronic noise level (i.e., the signal-to-noise ratio) is determined. Due to the irregular nature of instrument or method noise, reproducible quantitation of a chemical is not possible at the DL. Generally, a factor of 3 to 5 is applied to the DL to obtain a quantitation limit (QL) which is considered to be the lowest level at which a chemical may be accurately and reproducibly quantitated. DLs indicate the level at which a small amount would be "seen," whereas QLs indicate the levels at which measurements can be "trusted."

19. Page 4-1, 4th paragraph - The monitoring well borehole where 4-4'-DDD was detected in a subsurface soil sample is 65MW02, not 65MW03.

20. Page 4-1, 5th paragraph - Explain what is considered to be "significant levels of inorganic contaminants."

21. Page 4-2, Table 4-1 - Explanation should be provided for the soil sampling data which indicate that the concentrations of metals and pesticides detected in the subsurface soil sample from the borehole of monitoring well 65MW02 are greater than those of the surface soil sample. It has also been noted that pesticide 4,4'-DDD was detected from the same subsurface soil sample and from the groundwater sample collected from monitoring well 65MW02.

22. Page 4-7, 2nd paragraph - The use of the term "instrument detection level" is inaccurate. The term "quantitation limit" should be used rather than "instrument detection level." The instrument detection level, or detection limit (DL), is the lowest level of a chemical that can be detected by an instrument. A chemical present below DL cannot be distinguished reliably from the normal, random noise of an analytical instrument or method. DLs are chemical-specific and instrument-specific and are

determined by statistical treatment of multiple analyses in which the ratio of the lowest amount observed to the electronic noise level (i.e., the signal-to-noise ratio) is determined. Due to the irregular nature of instrument or method noise, reproducible quantitation of a chemical is not possible at the DL. Generally, a factor of 3 to 5 is applied to the DL to obtain a quantitation limit (QL) which is considered to be the lowest level at which a chemical may be accurately and reproducibly quantitated. DLs indicate the level at which a small amount would be "seen," whereas QLs indicate the levels at which measurements can be "trusted."

23. Page 4-7, 3rd paragraph - State freshwater quality standards, which were referenced in the text, should be provided for contaminants detected in the surface water samples.

24. Page 4-8, Table 4-2 - The ranges of metals detected here are fairly broad. Typically concentrations do not vary this greatly over such a small distance.

25. Page 4-13, paragraphs 1 and 2 - Duplicate samples should be collected from all environmental media which were sampled including groundwater, surface water, sediment and soil.

26. Page 5-1, Section 5.0 - This section should be heavily caveated in that the source of the various compounds detected is virtually unknown. It is very likely that elsewhere at this site, higher concentrations of the contaminants found exist.

    In addition, this section has not been reviewed by the EPA Office of Health Assessment. Due to the current workload, only Baseline Risk Assessments (BRA) and BRA segments of work plans are under review.

27. Page 5-1, 2nd paragraph - More specific terms such as "groundwater pathway" and "surface water pathway" should be referred to in the discussion of contaminant migration pathways rather than the term "water pathway."

28. Page 5-4, 6th paragraph - The text states that "future residential use has not been considered due to the fact that the area is highly infested with insects and there is no future residential use planned for the area at Site 65." This is not a justification for the arbitrary land use scenario adopted by the author. In a situation where a potential "no action" scenario is under consideration, all assumptions made must be of the utmost conservative nature in order to ensure that the "no action" determination is protective.

29. Page 5-5, 3rd paragraph - The discussion on exposure pathways at the site is insufficient. The Baseline Risk Assessment in the RI should include assessment of the following elements that constitute each pathway: source and mechanism of chemical release, retention or transport medium, exposure point of potential human contact with the contaminated medium and exposure route at the exposure point.

    The current aquifer classification is of more significance than whether or not it is currently used as a drinking water source.

30. Page 5-6, 1st paragraph - What is the authority for the statement "If compliance is achieved prior to any invasive remedial activity, the remedial action is the no action alternative."?

31. Page 5-6, 3rd paragraph - I believe that earlier in the document, the low-lying area near the ponds was identified as a potential wetlands. Please note this in the discussion of location-specific wetlands.

32. Page 5-7, 4th paragraph - The concentrations of inorganic contaminants detected in the soil samples should be compared to site-specific soil background concentrations, not the concentrations in the soils of the eastern United States. If site-specific soil background concentrations were used for comparison, they should be presented in the Draft SI Report.

33. Page 5-13, 2nd paragraph - The total organic carbon (TOC) analysis should be conducted for the soils at the site to obtain a site-specific TOC value.

34. Page 5-14, 2nd paragraph - The text states that "future residential use has not been considered due to the fact that the area is highly infested with insects and there is no future residential use planned for the area at Site 65." This is not a justification for the arbitrary land use scenario adopted by the author. In a situation where a potential "no action" scenario is under consideration, all assumptions made must be of the utmost conservative nature in order to ensure that the "no action" determination is protective.

35. Page 5-28, Section 5.6 - What is meant by the statement "currently no actual threat of risk"?

    There is no mention of the PCBs detected in the soil at the site. This is a grave oversight in the summary.

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